## REMARKS

Reconsideration and allowance of the application are respectfully requested in light of the above amendments and the following remarks.

The specification has been amended to include appropriate section headings and to make minor revisions to the specification. Accordingly, it is respectfully submitted that the specification is in compliance with 37 C.F.R. § 1.77(b), and that the objection to the specification should be withdrawn.

Replacement Sheets labeling FIGs. 1-4 as "Related Art" are attached as separate sheets at the end of this Amendment. Accordingly, it is respectfully submitted that the objections to the drawings should be withdrawn.

Claims 18, 21-23, 26-27, 29-30, and 34 have been amended to add features to the independent claims which clarify the term "minimum resource parameter" and patentably distinguish the claims over the prior art, to ensure proper antecedent support for each recited feature, and to correct minor grammatical errors. Support for the amendments to the claims can be found, for example, at paragraphs [0042] and [0044] of the published application. Claims 19-20, 31-33 and 35-46 have been cancelled without prejudice or disclaimer. No new matter is entered. (It should be noted that references herein to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to any particular aspect of the referenced embodiments.)

Claims 18-46 were rejected under 35 U.S.C. § 103(a) as being unpatentable over US 6,745,044 to Holtzman (hereinafter, "Holtzman") and further in view of Havinga, "Energy-efficient TDMA Medium Access Control protocol scheduling" (hereinafter, "Havinga"), and further in view of either Klein (US Printed Pub. 2004/0053574) (hereinafter, "Klein") or

Hoagland (US 6,731,947) (hereinafter, "Hoagland"). To the extent that the rejections may be deemed applicable to the amended claims, the Applicants respectfully traverse based on the points set forth below.

Amended claim 18 is directed towards a method for performing a scheduling algorithm in a scheduler of a wireless communication system and recites the features of:

> "...obtaining from a communication unit a minimum resource parameter that indicates a minimum number of allocation units scheduled for a user or service in a scheduling frame to meet a resource constraint of the communication unit, and
>
> scheduling, in the scheduling frame, resources for radio access to the communication unit wherein the resources are scheduled in the allocation units and in accordance with the minimum resource parameter,
>
> wherein the allocation units are scheduled to the communication terminal only if the minimum number of allocation units indicated by the minimum resource parameter can be scheduled for the service or user within the scheduling frame."

The method recited by claim 18 achieves the advantage over the prior art that resources can be shared among users, and further ensures that a receiver works economically and reasonably by avoiding an expenditure of power for reception of data having less than a minimum amount of information data. (Published application, par. [0044]). Also, the method recited by claim 18 has been amended to clarify the term "minimum resource parameter" to overcome the objections at page 3 of the Office Action.

Regarding the Office Action's comments on the disclosure of Holtzman, the Office Action mainly refers to FIG. 5 of Holtzman and the steps 514, and 542 to 546 thereof. The Office Action alleges that Holtzman discloses most of the recited features of claim 18, and is only silent about the minimum resource parameter being obtained from a communication unit (for example as a request) and the resource parameter indicating a "minimum." The Office

Action then alleges that the request for a standard channel having a data rate of 9600 BPS, as disclosed by Holtzman, would broadly read on the recited feature of a "resource parameter."

Claim 18 has been amended to define that the minimum resource parameter "indicates a minimum number of allocation units scheduled for a user or service in a scheduling frame to meet a resource constraint of the communication unit (emphasis added)." Holtzman does not disclose this recited feature of Applicants' claim 18. The Office Action cites to FIG. 5 and column 12, lines 32-40 of Holtzman to support the rejection of Applicants' claim 18. However, FIG. 5 does not disclose anything resembling the recited minimum resource parameter of Applicants' claim 18. Furthermore, column 12, lines 32-40 of Holtzman also does not disclose this recited feature of claim 18. Column 12, lines 32-40 discloses:

> "Prior to scheduling transmission to a new data user, the throughput $T_i(0)$ of the data user is initialized to a particular data rate (e.g., $T_i(0) = 9.6$ Kbps), at step 512. For each data user desiring data transmission and placed in a data user set S, a possible data rate $R_i(k + 1)$ for the data user for the next frame $k + 1$ is computed, at step 514. The possible data rate $R_i(k + 1)$ for each data user can be computed based on equations (15), (16), and (17) and is dependent on, among other factors, the estimated transmit power..."

This passage of Holtzman does not teach or suggest a "minimum number of allocation units scheduled for a user or service in a scheduling frame to meet a resource constraint of the communication unit," as recited by Applicants' claim 18. Specifically, this passage does not mention at least the recited features of a "minimum number of allocation units," or a "resource constraint of the communication unit."

Furthermore, none of the other cited prior art references cure this deficiency of Holtzman.

Accordingly, it is respectfully submitted that the rejections of independent claims 18 and 34 and all dependent claims therefrom should be withdrawn for at least this reason.

Furthermore, the Office Action also briefly cites some passages of Havinga, without, however, giving any explicit indication of why this document is of any relevance to any of the claimed subject-matter. The Office Action also does not set forth any arguments as to why one skilled in the art would have been motivated to combine Havinga with any of the other prior art references. "The key to supporting any rejection under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious." MPEP 2142. Here, the Office Action does not articulate how or why Havinga is relevant to the claimed subject matter of claim 18, or why one skilled in the art would have been motivated to combine Havinga with the other cited references to arrive at the method recited by claim 18.

As to the references by Klein and Hoagland, the Office Action argues that they teach the communication unit requesting a minimum resource parameter to adapt the unit's ability to transmit or receive.

With respect to Klein, the Office Action (page 5) asserts that the reference teaches the controlling of wireless access for a plurality of voice/data users whereby a minimum gain threshold is set/used to influence the data rate given to each mobile. The Office Action cites to "Abstract, figure 2 steps 214-218 and 222" to support this assertion. However, upon closely reviewing these cited portions of Klein, it appears that the Office Action has not explained the reasoning behind this assertion or the relevance of Klein to the features in question. Although Klein discloses setting a "minimum gain threshold" at which a "data user will be allowed to transmit," (Abstract), a minimum gain threshold is not the same as "a minimum resource parameter that indicates a minimum number of allocation units scheduled for a user or service in a scheduling frame to meet a resource constraint of the communication unit," as recited by Applicants' claim 18.

Regarding Hoagland, the Office Action asserts that from Hoagland's independent claim 1, it would be known that the unit ascertains a supportable data rate for receiving data and transmits to the base station a maximum data rate request. Specifically, the Office Action cites to claim 1 of Hoagland, which discloses:

> "...ascertaining a supportable data rate for receiving data by said mobile unit; transmitting to said base station a maximum data rate request so as to maintain said moving average of said data transfer rate being substantially unchanged, said maximum data rate being equal to or lower than said supportable data rate."

This above disclosure of Hoagland, however, is not related to a "minimum resource parameter," as recited by independent claim 18, but rather to a maximum resource parameter, i.e., a maximum data rate supportable by the mobile unit. Thus, Hoagland clearly does not teach or suggest the minimum resource parameter feature recited by independent claim 18.

Therefore, the Office Action has not established that Havinga, Klein, or Hoagland cure any of the deficiencies of Holtzman with respect to the claimed features of claim 18. Accordingly, it is respectfully submitted that the rejections of independent claims 18 and 34 and all dependent claims therefrom should be withdrawn for at least these reasons as well.

Furthermore, claim 18 has been amended to recite the feature:

> "...scheduling, in the scheduling frame, resources for radio access to the communication unit wherein the resources are scheduled in the allocation units and in accordance with the minimum resource parameter...(emphasis added)"

This claimed feature further clarifies that the allocation units are the smallest unit in which resources are allocated/scheduled by a scheduler (see paragraph [0042] of the published application). Hence, the minimum resource parameter essentially defines the minimum number of allocation units that must be scheduled for a user or service in a scheduling frame such that some resource constraint is met.

It is respectfully submitted that none of the prior art references, whether considered individually or in combination, teach or suggest this recited feature of claim 18. Accordingly, it is respectfully submitted that the rejections of independent claims 18 and 34 should be withdrawn for at least these reasons.

Also, claim 18 has been amended to recite the feature:

> "...wherein the allocation units are scheduled to the communication terminal only if the minimum number of allocation units indicated by the minimum resource parameter can be scheduled for the service or user within the scheduling frame."

This claimed feature is disclosed in paragraph [0044] of the published application, and indicates, in other words, that if the scheduler determines that a number of allocation units it could allocate to a user or service within a given scheduling frame is lower than the minimum number of allocation units indicated by the minimum resource parameters, the scheduler does not assign any resources to the user or service in the given scheduling frame.

This new feature of amended independent claim 18 is not taught or suggested in any of the prior art references cited to in the Office Action.

Accordingly, it is respectfully submitted that the rejections of independent claims 18 and 34 and all dependent claims therefrom should be withdrawn for at least this reason as well.

With respect to the rejection of Applicants' claim 22, it is further noted that claim 22 recites the feature of: "wherein the minimum resource parameter represents a minimum ratio of processed information bits to an expended processing and operating power spent during the radio access in the communication unit." Claim 22 thus further clarifies that the minimum resource parameter is also taking into account the internal parameters of the communication unit, i.e., the expended processing and operating power during radio access to enable an efficient use of the battery in the communication unit.

The Office Action (page 6) alleges that this feature is taught by the combination of Holtzman at FIG. 4 and FIG. 5, steps 542-546, and Havinga, pg. 7. Specifically, the Office Aciton alleges:

> "Holtzman teaches determining the previously used and predicted power requirements to transmit data to the mobiles, see figure 4, which reads on determining operating power 'spent/used' during the transmission and if it is available as based on an 'efficiency threshold' since the data rate will be modified if the power requirement/threshold is exceeded, see figure 5 steps 542-546. Havinga shows the amount of power used in various modes, e.g., off, sleep, idle, transmit and receive, pg 7"

However, neither Holtzman nor Havinga mention using a "ratio" of any kind, and thus neither Holtzman nor Havinga teach or suggest the feature of "wherein the minimum resource parameter represents a minimum ratio of processed information bits to an expended processing and operating power spent during the radio access in the communication unit," as recited by Applicants' claim 22. Furthermore, despite the Office Action's assertion, Holtzman does not teach or suggest "...an expended processing and operating power spent during the radio access in the communication unit," as recited by Applicants' claim 22. Although FIG. 4 of Holtzman mentions an "average and predicted transmit power (step 414)," neither an average nor a predicted transmit power of these are the same as an "expended processing and operating power spent during the radio access in the communication unit." Moreover, neither Havinga nor any of the other cited prior art references cure this deficiency of Holtzman.

Accordingly, it is respectfully submitted that the rejection of claim 22 should be withdrawn for at least these reasons as well.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

/James Edward Ledbetter/

Date: July 22, 2010
JEL/DEA/att

James E. Ledbetter
Registration No. 28,732

Attorney Docket No. L7725.06124
DICKINSON WRIGHT, PLLC
International Square
1875 Eye Street, NW
Suite 1200
Washington, D.C. 20006
Telephone: (202)-457-0160
Facsimile: (202)-659-1559

DC 7725-6124 157063